



The Missing Link

Gerard Freriks
René Schippers

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Agenda



EN13606 Association The missing Link

- INFOstructure, Semantic Interoperability Stack
- Experiences
- EN13606 Association
 - History, Goals, Website/Wiki, Statutes, Actions

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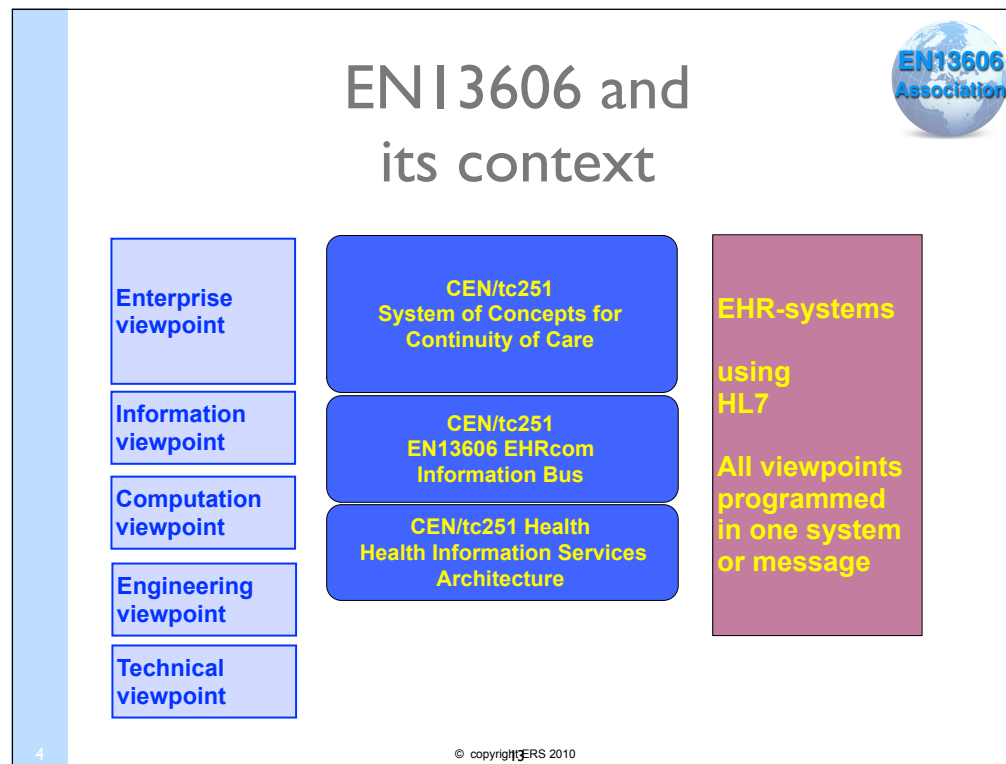
Semantic Interoperability Stack

Infrastructure

- technical
- (INFOstructure)

Semantic Interoperability Stack

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Depicted here is that in the case of messages

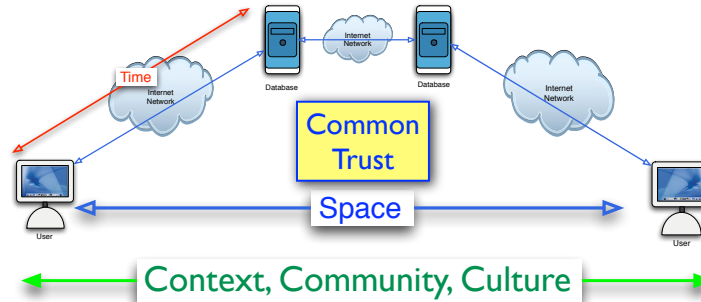
- work processes are standardised,
- translated in an Information Model
- the exchange between databases is choreographed
- and implemented in IT-systems, by programming and
- that have to rolled out.

State-of-the-Art EHR-systems that are based on EN13606 behave differently.
They only define what has to be Documented, Exchanged, Archived and Re-Used.

They do NOT standardise Workflow or the way information is exchanged.
They define define Engineering and Technology choices.

They ceate EHR-systems that facilitate healthcare maximally.

EN13606 Basics



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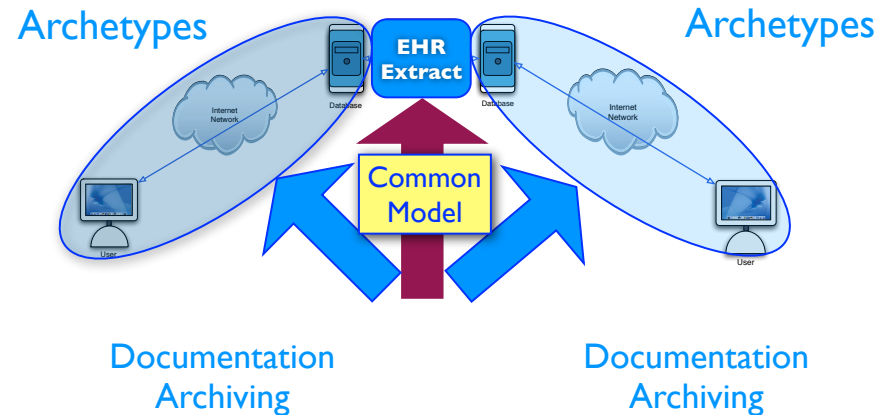
EHR's have two functions: transport of time (Documentation, Archiving), and transport over distance. This is possible, only, when we have many stable standards and instituted trust in the middle.

We need a national/European eHealth Infrastructure based on open International standards and legislation.

EN13606 Basics



Many, many unique identifiers



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Creating the EHR (eHealth) Infrastructure there two points of departure.

1-

For many years CEN/tc251 (like HL7) has started in the middle.
Message standards we produced to update proprietary databases.

2-

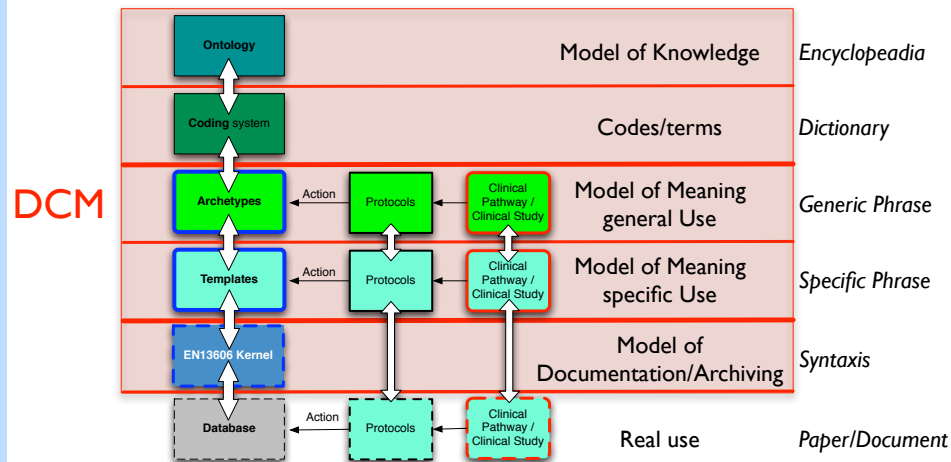
This century CEN/ISO started to think about standards at the EHR-system.
It standardised how Data or Information is stored, retrieved, archived AND exchanged.

It must be clear that therefor Message standards and EHR-standard have one thing in common.
But for many other aspects they have NOTHING in common.
There is only a partial overlap.

All this reflects different point of departure in CEN: Multiple languages.

What is needed

Semantic Interoperability Stack



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Semantic stack.
This is an idealised picture of what is needed for real semantic interoperability.

- We have to deal with:
- a- Model of Documentation/Archiving (Syntaxis)
 - b- Codes/terms (Dictionary)
 - c- Model of Knowledge (Encyclopedia) to allow systems to reason about the data and information in the future and build correct coding systems.
 - d- Models of Meaning in general and in specific local contexts.

Archetypes/templates are needed because without it is possible to construct correct but meaning less sentences:
- the Moon drank the mountain
Or express the opposite of what it states literally
- Once upon a time ...

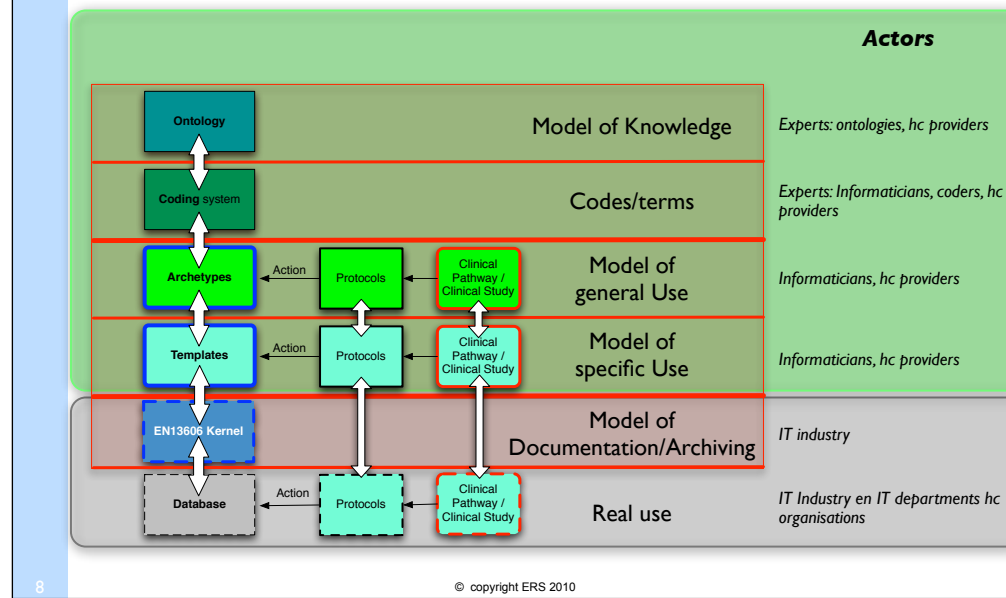
Archetypes and Templates are produced on the basis of local agreements.
And can not be considered Universals like Codes or elements of the Ontology.

It must be possible to express that locally in a specific context a Blood Pressure of 120 mm/Hg is abnormal because it is a new born baby.
Archetypes and Templates define what is at this moment and in that context considered the interpretation of 'normal'.

The Swedish Process Model will give rise to artefacts that are part of this picture (Clinical Pathways, giving rise to Protocol to be executed and Actions that are documented.
The V-TIM model defines the content of the Templates that will be used in the Swedish system.

What was presented in Lund by Sweden was foremost the Detailed Clinical Model part and NOT the constraints on the Reference Model.

What is needed

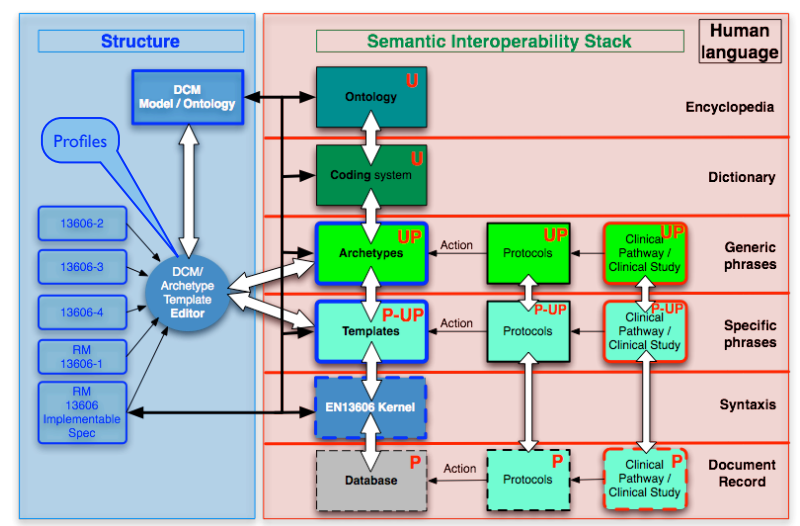


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The Healthcare domain will be responsible for the GREEN parts.
 The IT-industry will be responsible and active in the GREY domain.

IT-systems will be able to deal with all archetypes/templates the Healthcare Domain produces.
 IT-vendors no longer are responsible for the data/information content.

Semantic Interoperability Stack

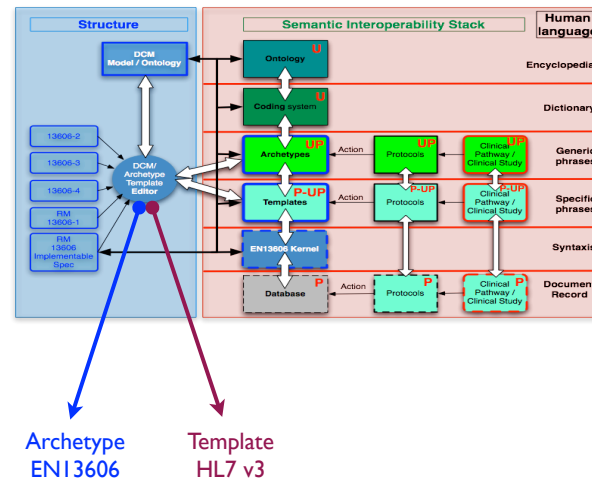


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The future of Semantic Interoperability

For Semantic Interoperability now and in the future it will be essential to have an Ontology define health knowledge. The Ontology must drive the DCM Tooling but also the Coding systems used.

Concept Semantic Interoperability Stack



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Detailed Clinical Models (DCM's) will define the health content.

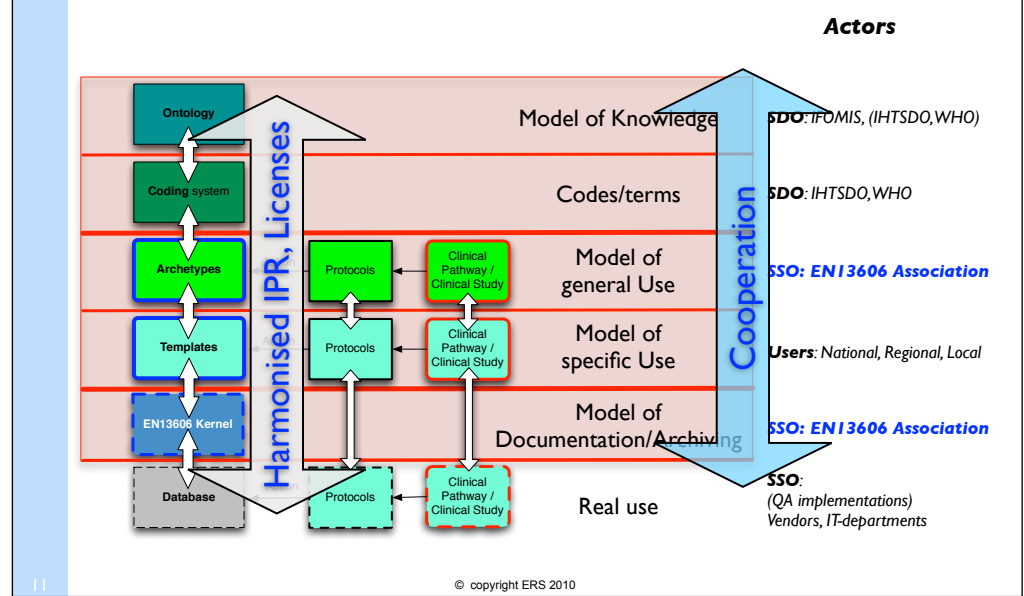
Based on a general DCM Model profiles for recurring Documentation Patterns and Semantic Patterns the health related content is generated.

Based on the common Patterns it must be possible to generate constraints on any Reference Model.

In the context of EN13606 this must be the EN13606-1.



Missing Link



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Experiences



Problems with Proprietary IP

Archetype modeling

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Experiences IP and Licensing

**All IP of all components in
the Semantic Interoperability Stack
must be in the public domain
and use harmonised licenses**

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Items produced in the Semantic Interoperability Stack need to be in the public domain.

Experiences Archetype Modeling



2 Years of archetype modeling learned that we need to:

- have common definitions for concepts we use
- reduce the degrees of freedom the EN13606 has
- stop misuse of Reference Model classes and data types

Experiences Archetype Modeling



2 Years of archetype modeling learned that we need:

- to Model:
 - semantic ordinals,
 - questionnaires,
 - properly use the Classes: Link, Folder, Entry, Cluster, Element, Data Types
- to Define standardised Documentation Patterns and Semantic Statement Patterns
- New tools:
 - that support the complete Reference Model
 - that support all Data types
 - that support standardised Documentation Patterns and Semantic Statement Patterns

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Example: Most archetype modellers use the DV_Ordinal data type.

In my experience we need to be able to include inclusion and exclusion criteria. This demands that this is modelled via the Cluster/Element Classes.

Modeling archetypes showed that there are recurring patterns at the level of Documents (Folder, Composition and Section) levels and Semantic Statement Patterns at the level of the Entry, Cluster, Element level.

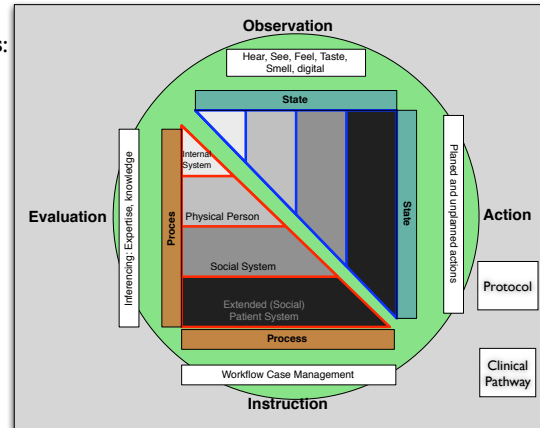
Because there are too many degrees of freedom we have to standardise these patterns. The EN13606 Association is the vehicle for this.

The Link_EHR tool (next release) will have pattern functionalities.

Experiences Archetype Modelling Definitions



**Concepts:
Entry Classes:**
-Observation
-Evaluation
-Instruction
-Action



**Concept:
Patient System:**
-Observation
-Evaluation
-Instruction
-Action

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Example: Too many times modellers use the Observation and Evaluation in a wrong way. Because these classes have not been defined fully. Observations are about everything that is taken in by our senses and are the result of processes in the patient system. Evaluations are all inferences about the processes in the patient system.

The patient system is defined according to the classification in ICF.

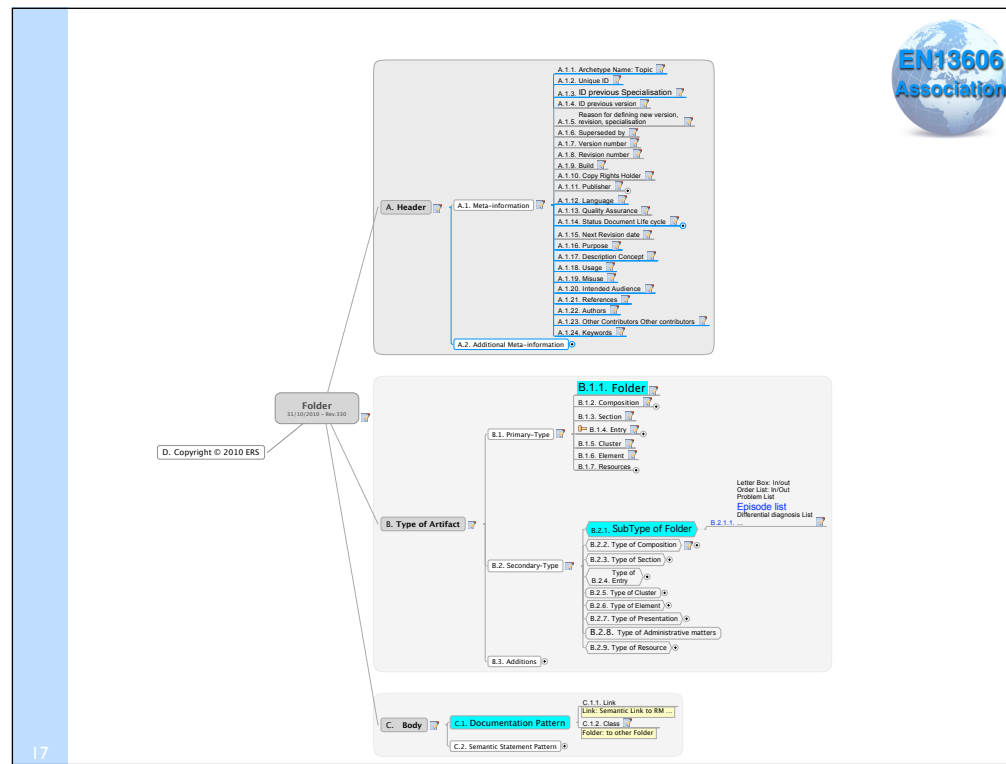
Mostly Reasons for Treatment and Reasons for Diagnostics are related to generated cost and drive the way the patient flows thru the system.

Instructions set Clinical Pathways in motion, that drive Protocols to be executed. All actions performed on the patient system will be documented via Actions, that lead to Observations, etc, etc.

This means that at run-time instantiations must be able to point at other documented fact that gave rise to this documented fact. In other words it must be possible to constrain the LINK class.

In addition it can not be excluded that each specialisation if the Entry Class has its own statemodel behind it. And not only the Action/ Instruction Classes.

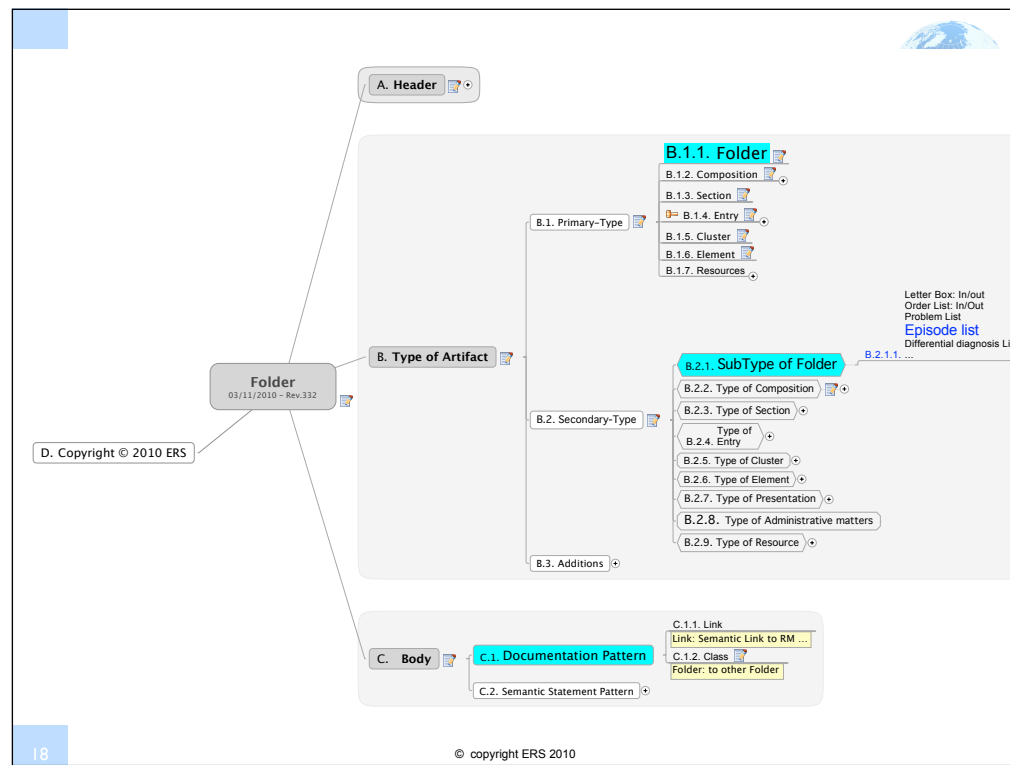
Note: The specialised Entry Classes in my opinion are Semantic Statement Patterns and should NOT part of the Reference Model.



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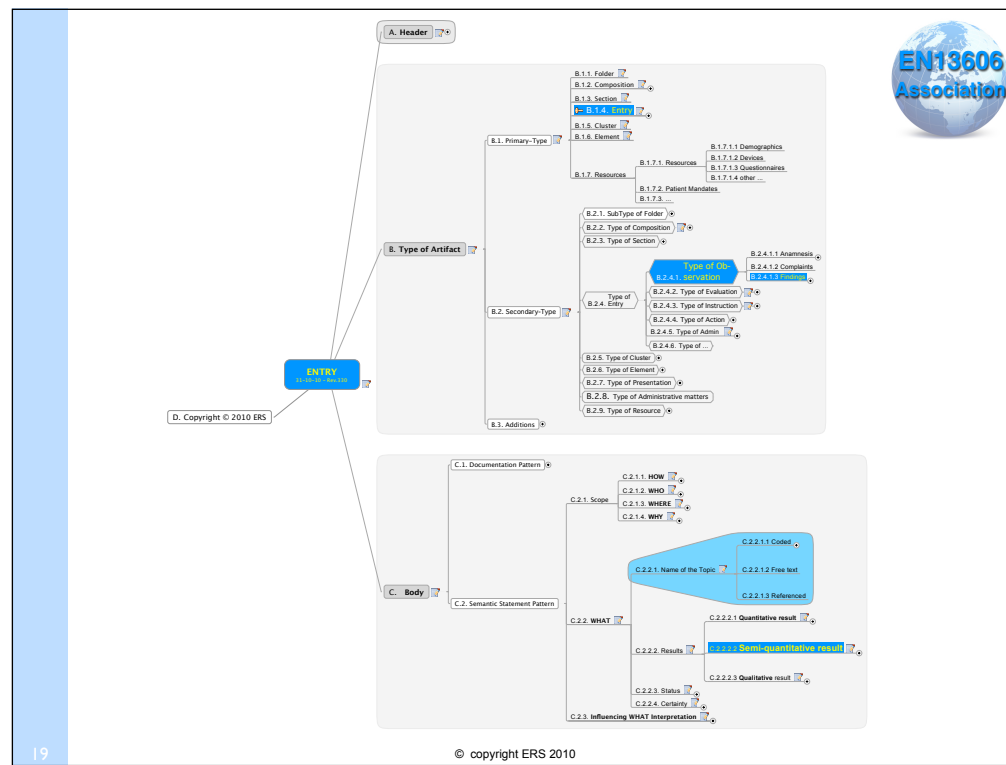
This is an example of the Ur-Archetype/Detailed Clinical Model.

Observe that the meta-information I think is needed is much more than that defined in EN13606.
 Example: FOLDER.



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The Folder will use the Documentation Pattern for Folders.

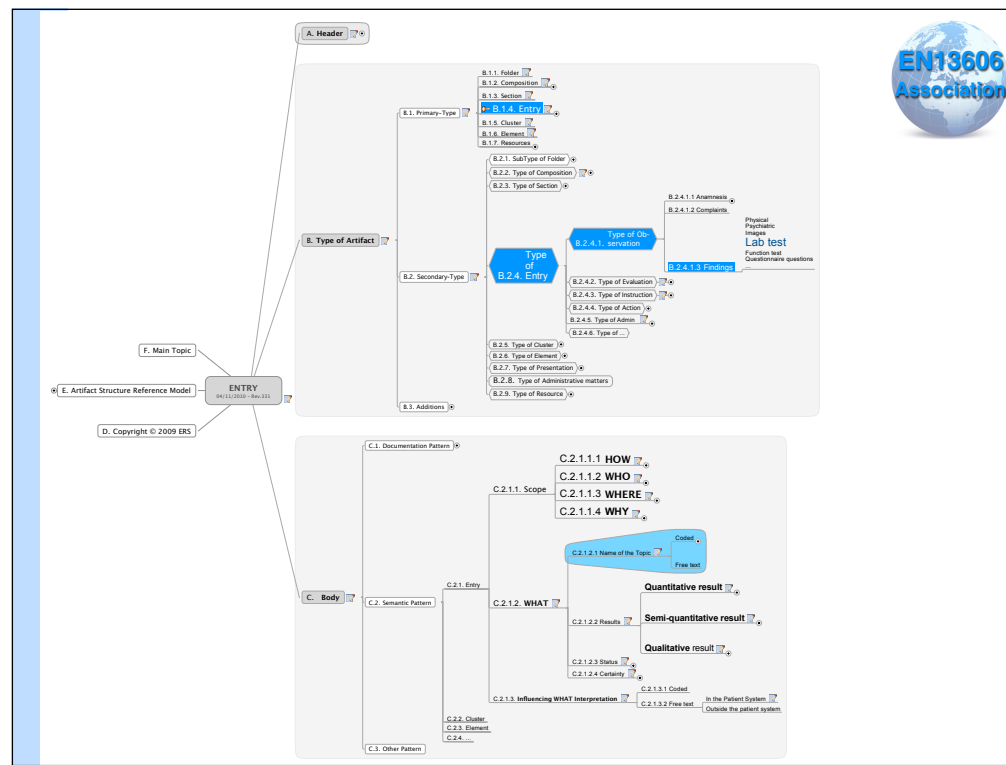


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Example: Finding.

Observe that the Semantic Statement Pattern is selected, that the How, Why, Where, are addressed.

And that it must be possible to deal with Quantitative, Semi-quantitative-Type and Qualitative results, including certainty, and Status.



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Example: ENTRY, FINDING, LAB-TEST

Terms from the list where FINDING is located must link to V-TIM and the process model (ontology)

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EN13606 Association



History

Goals

Actions

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ENI3606 Association

Developments

- Madrid meeting (40 people - 2 days)
- ENI3606 Web-site
- ENI3606 Wiki
- IHTSDO, WHO, IFOMIS, HL7, EU-Commission
- ENI3606 Association

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EN13606 Association

- | | |
|------------------|-------------|
| UK | USA |
| Sweden | Netherlands |
| Spain | Brazil |
| Slovakia | New Zealand |
| Australia | Serbia |
| Germany | USA |
| Norway | Singapore |
| Ireland | |

The CEN/ISO EN13606 Information Site

www.EN13606.org

Home

Main Menu

- Home
- About this site
- Semantic interoperability
- CEN/ISO EN13606 standard
- Archetypes and DCMs
- Resources
- Discussion forum
- EN13606 Workshop, Madrid, June 2010

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The CEN/ISO EN13606 Information Site

Welcome to the EN13606 Information site

The main aim of this website and community is to become the prime source of information about the CEN/ISO EN13606 EHR standard for healthcare providers, hospitals, IT-vendors and regional and national projects. At the same time, to pave the way for a next release of the CEN/ISO EN13606 EHR standard based on existing implementation experiences.

We can think of many topics that can be discussed:

- Creation of a user community around EN13606
- Sharing of experiences, implementations and tools
- Extension of the present EN13606 with implementable specifications like an XML-schema
- Addition of new features like: genomics, service interfaces
- Detailed Clinical Models and documentation (modeling) patterns for DCM's (Archetypes)
- Governance and certification of specifications and produced Archetypes/DCM's/Templates
- Documentation
- Archetype modeling
- Renewal of the present EN13606
- Development roadmap for the CEN/ISO EN13606 EHR standard

We invite you to sign-up for a discussion, start-up a discussion yourself or contribute texts and opinions.

The EN13606 Information Site Team

New EN13606 wiki

Written by Administrator
Monday, 06 September 2010 10:40

A wiki for the EN13606 community has been created and has free access for all users. Main contents and organisation of the wiki is still in development.

You can visit it at <http://wiki.en13606.org>

CEN/ISO EN13606 invitational workshop, Madrid, June 2010

Written by Administrator
Tuesday, 20 April 2010 08:51

CEN/ISO EN13606 Invitational Workshop
June 24th and 25th, 2010
Madrid, Spain

We are delighted to present the CEN/ISO EN13606 implementers workshop to be held in Madrid in June 2010. By invitation only. Limited capacity.

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ENI3606 Association

The main objectives for which the Consortium is established are:

- To work on the maintenance of the CEN/ISO ENI3606 EHRcom standard, its successors and extensions to the standard.
- To collect the experiences of implementers of the standard.



EN13606 Association

The main objectives for which the Consortium is established are:

- To support implementers of the standard with services (meetings, web-site, discussion forum, artefact publication repository, etc).
- To establish public Intellectual Property Rights for published artefacts in conjunction with Members and Associates.



EN13606 Association

The main objectives for which the Consortium is established are:

- To promote, advance and secure acceptance of the Two Level Modeling paradigm made possible by the standard.
- To cooperate with organisations relevant in the context of the EN13606.



EN13606 Association

Resources

- WebSite
- Wiki
- Forum Discussion lists
 - Published for discussion and acceptance:
 - an XML-Schema of the EN13606 Reference Model
 - Guide on the use of OIDs
 - Archetype Modeling Guide
- Archetype repository
- EN13606 update proposals to be submitted to CEN/ISO
- Formative courses
- Professional certification



EN13606 Association

Actions

- Collect inputs from the community of implementors
- Initial working groups
e.g. Guidelines, tooling, Data types profile, Archetype/Template/DCM Repository, OIDs
- Switch from volunteer organisation to a professionally governed organisation
- Members Meeting
(tentatively end January in Dublin)



EN13606

Members or Associates

- Industry
- Academia
- Governments, public bodies
- European, National projects
- SDO's and other relevant organisations

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Summary

- The ENI 3606 Association is established
- Partnering organisation in the INFOstructure
- Co-operate with other relevant organisations
- Archetype/Template Modelling
- Active role in FP7 and other projects
- Publish artefacts with a publicly owned IP and appropriate licensing

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